LOGICAL MEMORY TAGS FOR REDIRECTED DMA OPERATIONS

ABSTRACT OF THE DISCLOSURE

A memory tag mechanism creates a logical memory tag of a first length that corresponds to an I/O address of a second length. The memory tag is "logical" because it does not represent physical memory. When an I/O adapter device driver that expects an address of the first length is invoked, the memory tag is passed. When the I/O adapter device driver makes a call to the partition manager to convert the address of the first length (*i.e.*, memory tag) to an I/O address of the second length, the partition manager detects that the passed address is a memory tag instead of a real address, and returns the corresponding I/O address. In this manner existing device drivers that expect addresses of the first length may be used for redirected DMA, which allows performing DMA operations directly from a shared I/O adapter in a hosting partition to memory in a hosted partition.